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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/587,372	06/12/2008	Miren Edurne Baroja Fernandez	U 016405-8	1684

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LADAS & PARRY LLP
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NEW YORK, NY 10018-3738

EXAMINER

PAGE, BRENT T

ART UNIT	PAPER NUMBER
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1638

NOTIFICATION DATE	DELIVERY MODE
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02/02/2011

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

nyuspatactions@ladas.com
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Office Action Summary	Application No. 10/587,372	Applicant(s) BAROJA FERNANDEZ ET AL.	
	Examiner BRENT PAGE	Art Unit 1638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 November 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) 1-33 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 34-43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 July 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>06/2009</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of Group IV in the reply filed on 11/29/2010 is acknowledged. The traversal is on the ground(s) that claim 35 requires SEQ ID NO:3. This is not found persuasive because SEQ ID NO:3 is not the only sequence that could encode SSX given the degeneracy of the code.

The requirement is still deemed proper and is therefore made FINAL.

Claims 1-43 are pending. Claims 1-33 are withdrawn by the Examiner as being drawn to non-elected subject matter. Claims 34-43 are examined herein in the merits.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 36 and 37 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claims contain subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The invention appears to employ novel plasmids contained in microorganisms. Since the plasmid contained in the microorganism is essential to the claimed invention it must be obtainable by a repeatable method set forth in the specification or otherwise be

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readily available to the public. If the microorganism is not so obtainable or available, the requirements of 35 USC 112 may be satisfied by a deposit of the microorganism. The specification does not disclose a repeatable process to obtain the plasmid contained in the microorganism and it is not apparent if the microorganism is readily available to the public. Thus, a deposit is required for enablement purpose. If the deposit is made under the terms of the Budapest Treaty, then an affidavit or declaration by applicants, or a statement by an attorney of record over his or her signature and registration number, stating that the specific strain has been deposited under the Budapest Treaty and that the strain will be irrevocably and without restriction or condition released to the public upon the issuance of a patent, would satisfy the deposit requirement made herein.

If the deposit has not been made under the Budapest Treaty, then in order to certify that the deposit meets the criteria set forth in 37 C.F.R. 1.801-1.809, applicants may provide assurance of compliance by an affidavit or declaration, or by a statement by an attorney of record over his or her signature and registration number, showing that

- (a) during the pendency of this application, access to the invention will be afforded to the Commissioner upon request;
- (b) all restrictions upon availability to the public will be irrevocably removed upon granting of the patent;
- (c) the deposit will be maintained in a public depository for a period of 30 years or 5 years after the last request or for the effective life of the patent, whichever is longer;
- (d) a test of the viability of the biological material at the time of deposit (see 37 CFR 1.807); and,
- (e) the deposit will be replaced if it should ever become inviable.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 34 and 38-43 are rejected under 35 U.S.C. 102(b) as being anticipated by Cheikh et al (US20030135870).

The claims are drawn to a method comprising using any DNA encoding any sucrose synthase by inserting a genetic construct that contains and expresses said sucrose synthase, wherein the SS enzyme is overexpressed by an order of 2-10 times, wherein the transgenic plants are tobacco, potato, tomato or rice wherein the transgenic plants have higher contents of sucrose, G6P, ADPG and starch, as well as transgenic plants having said increased contents in roots, tubers or seeds than non-transformed plants.

Cheikh et al teach a transformed plant wherein the plant is transformed with a nucleic acid molecule comprising nucleic acid encoding sucrose synthase (see claim 5 part i) wherein the sucrose synthase is overexpressed (see paragraph 111), wherein it is taught that the gene may increase ADPG (see paragraph 9, for example), sucrose (see paragraphs 10-17), G6P (see paragraph 14, for example), and starch (see

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paragraph 20, which would include amylose). Furthermore, the above phenotypes would be inherent properties of overexpressing sucrose synthase as claimed absent evidence to the contrary.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 34-35 and 38-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cheikh et al (US20030135870) in view of Baroja-Fernandez et al (2003 Plant Cell Physiology 44:500-509, published in January of 2003).

The claims are drawn to a method comprising using any DNA encoding any sucrose synthase by inserting a genetic construct that contains and expresses said sucrose synthase, wherein the SS enzyme is overexpressed by an order of 2-10 times, wherein the transgenic plants are tobacco, potato, tomato or rice wherein the transgenic plants have higher contents of sucrose, G6P, ADPG and starch, as well as transgenic plants having said increased contents in roots, tubers or seeds than non-transformed plants, and wherein the sucrose synthase gene encodes SSX.

Cheikh et al teach a transformed plant wherein the plant is transformed with a nucleic acid molecule comprising nucleic acid encoding sucrose synthase (see claim 5

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part i) wherein the sucrose synthase is overexpressed (see paragraph 111), wherein it is taught that the gene may increase ADPG (see paragraph 9, for example), sucrose (see paragraphs 10-17), G6P (see paragraph 14, for example), and starch (see paragraph 20, which would include amylose). Furthermore, the above phenotypes would be properties that naturally result from overexpressing sucrose synthase as claimed absent evidence to the contrary.

Cheikh et al do not teach the above wherein the sucrose synthase gene encodes SSX.

Baroja-Fernandez et al teach the cloning and characterization of a nucleic acid sequence that encodes SSX as instantly claimed, and also teach that sucrose synthase has high affinity for ADP in potato, and higher starch accumulation.

Given the state of the art and the disclosures by Cheikh et al and Baroja-Fernandez et al it would have been obvious to one of ordinary skill in the art to use the sucrose synthase gene taught by Baroja-Fernandez et al to overexpress in plants as taught by Cheikh et al for increased starch and ADPG production as instantly claimed. One would have been motivated to do based on the teaching in Baroja-Fernandez et al that such phenotypes were linked to the potato sucrose synthase gene.

No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRENT PAGE whose telephone number is (571)272-5914. The examiner can normally be reached on Monday-Friday 8-5.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anne Marie Grunberg can be reached on (571)-272-0975. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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